

CLAIMS

What is claimed is:

1. A stringed instrument comprising:
 - one or more pickups to generate one or more electrical signals in response to
 - 5 string vibrations;
 - one or more digital signal processors to generate at least one digital signal based upon the one or more electrical signals;
 - a communication adapter to transmit the at least one digital signal in a transmission medium in data frames, each data frame comprising a plurality of bits to
 - 10 represent a portion of the at least one digital signal; and
 - a distortion device to manipulate at least a portion of the one or more digital signals to impart a distortion effect.
2. The stringed instrument of claim 1, wherein communication adapter
- 15 comprises a frame buffer to receive the at least one digital signal from the one or more digital signal processors and the distortion device manipulates bits in at least some of the data frames in the frame buffer.
3. The stringed instrument of claim 2, wherein the distortion device further
- 20 comprises:
 - logic to detect the presence of a data frame containing a portion of the digital signal in the frame buffer; and
 - logic to modify an audio slot portion of at least some of the detected data frames.

4. The stringed instrument of claim 1, wherein the distortion device is coupled to the one or more digital signal processors to manipulate portions of the at least one digital signal.

5. The stringed instrument of claim 1, wherein the distortion device is disposed within logic controlled by the one or more digital signal processors.

6. The stringed instrument of claim 1, the stringed instrument further comprising an external control to select a degree of the distortion effect to be imparted to the at least one digital signal.

7. The stringed instrument of claim 6, wherein the distortion device comprises logic to modify a number of bits in each of the at least some of the data frames based upon a setting of the external control.

8. The stringed instrument of claim 1, wherein the distortion effect comprises adding harmonic distortion to the one or more digital signals.

9. The stringed instrument of claim 1, wherein the distortion effect comprises a replacement of at least a portion of the one or more digital signal with a random bit pattern.

10. The stringed instrument of claim 1, wherein the distortion effect comprises a replacement of at least a portion of the one or more digital signals with a predetermined bit pattern.

5

11. The stringed instrument of claim 1, wherein the communication adapter comprises a physical layer communication device to transmit data frames according to a 100Base-T protocol.

10 12. The stringed instrument of claim 11, wherein the communication adapter comprises circuitry to draw power from a twisted pair cable.

13. A method comprising:

receiving one or more electrical signals from one or more pickups coupled to a

15 stringed instrument generated in response to string vibrations;

generating one or more digital signals based upon the one or more electrical signals;

manipulating at least a portion of the one or more digital signals to impart a distortion effect;

20 formatting the one or more digital signal into one or more data frames; and

transmitting the data frames in a transmission medium from the stringed instrument to a destination device, each data frame comprising a plurality of bits to represent a portion of the one or more digital signals.

14. The method of claim 13, the method further comprising:
storing the one or more data frames in a frame buffer; and
modifying bits in at least some of the data frames in the frame buffer to impart the
5 distortion effect.

15. The method of claim 14, the method further comprising:
detecting the presence of a data frame containing a portion of the one or more
digital signal in the frame buffer; and
10 modifying an audio slot portion of at least some of the detected data frames to
impart the distortion effect.

16. The method of claim 13, the method further comprising:
modifying portions of the one or more digital signals under the control of one or
15 more digital signal processors; and
providing a distorted digital signal to the frame buffer for transmission.

17. The method of claim 13, the method further comprising affecting a degree
of the distortion effect to be imparted to the digital signal in response to a control coupled
20 externally to the stringed instrument.

18. The method of claim 17, wherein modifying at least a portion of the one or more digital signals further comprises modifying a number of bits in each of the at least some of the data frames based upon a setting of the control.

5 19. The method of claim 13, wherein modifying at least a portion of the one or more digital signals further comprises adding harmonic distortion to the one or more digital signals.

20. The method of claim 13, wherein modifying at least a portion of the one or
10 more digital signals further comprises replacing at least a portion of the one or more digital signal with a random bit pattern.

21. The method of claim 13, wherein modifying at least a portion of the one or more digital signals further comprises replacing at least a portion of the one or more
15 digital signals with a predetermined bit pattern.

22. The method of claim 13, the method further comprising transmitting the data frames in the cable according to a 100Base-T protocol.

20 23. An apparatus comprising:
a communication adapter comprising a frame buffer to receive one or more digital audio signal to form data frames for transmission in a transmission medium; and

a distortion device to modify one or more bits in at least some of the data frames to impart a distortion effect to the one or more digital audio signals.

24. The apparatus of claim 23, wherein the distortion device further
5 comprises:

logic to detect the presence of a data frame containing a portion of the one or more digital audio signals in the frame buffer; and

logic to modify an audio slot portion of at least some of the detected data frames.

10 25. The apparatus of claim 23, wherein the distortion device comprises logic to impart a degree of distortion to the digital audio signal based upon a setting of an external control.

15 a26. The apparatus of claim 25, wherein the distortion device comprises logic to modify a set number of bits in at least some of the data frames based upon the degree of distortion to be imparted to the digital audio signal.

27. The apparatus of claim 23, wherein the distortion effect comprises an addition of harmonic distortion to the digital audio signal.

20

28. The apparatus of claim 23, wherein the distortion effect comprises a replacement of at least a portion of the one or more digital signal with a random bit pattern.

29. The apparatus of claim 23, wherein the distortion effect comprises a replacement of at least a portion of the one or more digital signals with a predetermined bit pattern.

5

30. The apparatus of claim 23, wherein the communication adapter further comprises a physical layer communication device to transmit data frames according to a 100Base-T protocol.

10

31. The apparatus of claim 30, wherein the communication adapter comprises circuitry to draw power from a twisted pair cable.